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[54] **SELF CONTAINED HAND HELD ULTRASONIC INSTRUMENT FOR OPHTHALMIC USE**

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Related U.S. Application Data

[63] Continuation of Ser. No. 352,681, May 10, 1989, abandoned, which is a continuation of Ser. No. 267,746, Nov. 2, 1988, abandoned, which is a continuation of Ser. No. 145,643, Jan. 13, 1988, abandoned, which is a continuation of Ser. No. 781,148, Sep. 27, 1985, abandoned.

[51] **Int. Cl.**[5] **A61B 8/10**

[52] **U.S. Cl.** **128/661.06**; 128/662.03

[58] **Field of Search** 128/661.06, 662.03, 128/645-647, 652, 745; D24/10, 17, 18, 23

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[57] **ABSTRACT**

Disclosed is a completely portable, hand-held digital ultrasonic instrument about the size and shape of an ordinary pen. The housing is contoured such that it can be easily grasped in the manner of a writing pen. An activation button is located on the interior dorsal surface in close approximation to the index fingertip of the user. A liquid crystal display provides a digital readout of a thickness measurement on the barrel of the instrument housing. The instrument incorporates a 10 MHz or 20 MHz solid phase piezoelectric transducer, a microprocessor, a gate array, a hybrid analog circuit, a liquid crystal display, batteries and a removable battery cover. The 20 MHz transducer is used to measure corneal thickness and is attached to a swan neck connector which is attached to the instrument housing. The 10 MHz transducer is used for measuring axial length and it is attached to a truncated conical connector which is also attached to the instrument housing. In addition, a pinjack connector is available to link the unit to other electronic media such as a microcomputer, personal computer, or printer.

9 Claims, 2 Drawing Sheets